

Application No. 10/761,004

Attorney Docket No. 2003-0484 / 24061.523
Customer No. 42717

LISTING OF CLAIMS:

1. (Currently Amended) A method to singulate a circuit die from an integrated circuit wafer, said method comprising:
providing an integrated circuit wafer containing a circuit die;
cutting through said integrated circuit wafer by performing a single, continuous cut around more than one side of the perimeter of said circuit die at a time to thereby singulate said circuit die.
2. (Original) The method according to Claim 1 wherein said singulated circuit die comprises a non-rectangular perimeter.
3. (Original) The method according to Claim 1 wherein said singulated circuit die comprises a perimeter having rounded corners.
4. (Original) The method according to Claim 1 wherein said singulated circuit die comprises a perimeter having more than four sides.
5. (Original) The method according to Claim 1 wherein said singulated circuit die comprises a perimeter having three sides.
6. (Original) The method according to Claim 1 wherein said singulated circuit die comprises an elliptical perimeter.
7. (Original) The method according to Claim 1 wherein said singulated circuit die comprises a circular perimeter.

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8. (Original) The method according to Claim 1 wherein said step of cutting through is performed using a laser.
9. (Original) The method according to Claim 1 wherein said step of cutting through is performed using an electron beam or water jet.
10. (Original) The method according to Claim 1 further comprising:
fixably mounting said singulated circuit die onto a package; and
coupling signal pins of said package to signals in said electronic circuit.
11. (Currently Amended) A method to singulate a circuit die from an integrated circuit wafer, said method comprising:
providing an integrated circuit wafer by performing a single, continuous cut around more than one side of the perimeter of said circuit die at a time to thereby singulate said circuit die and wherein said singulated circuit die comprises a non-rectangular perimeter;
fixably mounting said singulated circuit die to a package; and
coupling signal pins of said package to signals in said electronic circuit.
12. (Original) The method according to Claim 11 wherein said non-rectangular perimeter has rounded corners.
13. (Original) The method according to Claim 11 wherein said non-rectangular perimeter more than four sides.
14. (Original) The method according to Claim 11 wherein said non-rectangular perimeter has three sides.

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15. (Original) The method according to Claim 11 wherein said non-rectangular perimeter is an ellipse.
16. (Original) The method according to Claim 11 wherein said non-rectangular perimeter is a circle.
17. (Original) The method according to Claim 11 wherein said step of cutting through is performed using a laser.
18. (Original) The method according to Claim 11 wherein said step of cutting through is performed using an electron beam or a water jet.
19. (Currently Amended) A method to singulate a circuit die from an integrated circuit wafer, said method comprising:
- providing an integrated circuit wafer containing a circuit die;
 - providing a first cut partially cutting said integrated circuit wafer using a focused beam apparatus;
 - providing a second cut cutting through said integrated circuit wafer using a wafer saw blade apparatus;
 - wherein at least one of the first and second cut is performed by a single continuous cut around more than one side of the perimeter of said circuit die at a time.
20. (Currently Amended) An integrated circuit device comprising:
- a semiconductor substrate containing an electronic circuit wherein said semiconductor substrate has a non-rectangular perimeter, wherein the semiconductor substrate is singulated by performing a single continuous cut around more than one side of the perimeter of the substrate at a time; and

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a package comprising:

- a surface to fixably mount said semiconductor substrate;
- a plurality of signal pins; and
- a means of coupling said signal pins to signals in said electronic circuit.

21. (Original) The device according to Claim 20 wherein said non-rectangular perimeter has rounded corners.

22. (Original) The device according to Claim 20 wherein said non-rectangular perimeter has more than four sides.

23. (Original) The device according to Claim 20 wherein said non-rectangular perimeter has three sides.

24. (Original) The device according to Claim 20 wherein said non-rectangular perimeter is an ellipse.

25. (Original) The device according to Claim 20 wherein said non-rectangular perimeter is an "L" shape, an "H" shape, a "T" shape, or a curved shape.

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